

**REMARKS**

This amendment is in full and timely response to the initial Office Action dated March 14, 2006 in the Continued Examination. Reexamination and reconsideration are respectfully requested.

**Rejection of claims 13 to 15 and 17 as anticipated by DeLage**

Dealing first with the rejection of Claims 13 to 15 and 17 as anticipated by the French patent to DeLage, this position is respectfully traversed. The law of this case, without further explanation from the examiner, that should apply to claim 13 as amended at the filing of the RCE is at the very least the same disposition as to former claim 16 migrated at the filing of the RCE to claim 13. Historically, claim 16 was merely found to be obvious over DeLage, a flaw occasioned by the lack of any teaching of the separation distance between the respectively claimed mesa portions. See the prior treatment of claim 16 in the parent. Withdrawal of the rejection on this basis alone would be in order.

However, the examiner challenged the claimed distance of 1 to 5  $\mu\text{m}$  as an obvious finding of optimum conditions. The claim 13 is thus further amended to advance the prosecution of this application to a successful conclusion by reciting that the interconnect has a thickness on the order of 0.2 to 0.5  $\mu\text{m}$  so that for the stated intermesa distance claimed, a tradeoff between increasing device area for the HBT and maintaining strength of the thin interconnect. The Applicant's teachings are well-stated at page 16, first full paragraph, of the specification as filed. Claim 13 thus now includes reasons for the stated distances that remove it from any allegation that those limitations are merely the discovery of optimum or routine conditions. DeLage, for example, is quiet about the thickness of the interconnect relative to the spacing even if the general range of the spacing is gleaned from the discussion.

Claim 13 as amended is thus patentable over the art of record for at least the reasons of its inconsistent treatment compared to the rejection stated in the parent, and for the additional recitations stated therein.

For completeness, it was noted at filing of this RCE that the subject matter of claim 13 is amended with the subject matter of claim 16 so that the rejection of claims 13 to 15 and 17 is not founded on section 102, but rather on obviousness under 35 USC 103 by the incorporation of the

subject matter of claim 16. See the last paragraph on page 8 of the After Final Amendment for the deficiencies of a rejection under section 103 of claim 16 relying on Delage alone.

Rejection of claims 1 to 3 and 5 to 7

Claims 1 to 3 and 5 to 7 as presented in the RCE were rejected as unpatentable over DeLage in view of Demir for the reasons stated in section 3 on pages 2 to 4 of the Action. Historically, a rejection of Delage and Brar in the parent was overcome when it was noted that the rejection at Final Action admitted that Delage does not disclose the semiconductor device wherein an insulating film is formed below the conductive layer between the semiconductor mesa portion and the base contact pad mesa portion. For that deficiency, the examiner turned to Brar merely concluding that it would have been obvious to use the insulating layer teaching of Brar, as explained at the bottom of page 6 of the Final Action with Delage's method. The sole reason alleged was the conclusion that it would be provided the protection to the mesa layer and/or for further interconnection as taught by Brar in col. 6, lines 1 to 15.

In this Action, the examiner again based his obviousness rejection on DeLage admitting that DeLage does not show the claimed insulating film, but turning this time to Demir. To the extent that the finding of reasons to incorporate Demir's teachings, even if appropriate, into DeLage are deficient for the reasoning of motivation previously of record (incorporated herein by reference to the reasons stated at the RCE filing), the rejection fails to state a prima facie case for obviousness.

Nevertheless, to advance the issues of this prosecution toward finality, features discussed at pages 11 et seq. with respect to Fig. 5 are incorporated herein. Specifically, claim 1 now recited the subcollector layers of both mesas which serve as a collector takeout layer, and the covering with an insulating film 19 (discussed in the paragraph spanning pages 14 and 15 of the specification) among other changes. These recited features are not found in any fair combination of the teachings of DeLage and Demir, and thus structurally distinguish over the combination even assuming that there is a proper motivation to incorporate the teachings of Demir into the teachings of DeLage. Withdrawal of the rejection is respectfully requested.

This reason falls short of the factual showing of the reasons for making the modification in DeLage. There is no showing that Delage wanted such a change, or that the teachings of Demir to the extent stated would be appropriate to the device of Delage. See the MPEP and In

re Sang Su Lee, Fed Cir. No. 00-1158, decided January 18, 2002, copy attached at the filing of the RCE, especially at pages 6 to 8 of the opinion.

It may be noted that the intermesa distance limitation of claim 6 is maintained unamended, with the reasons for its non-obviousness previously explored on this record without a requirement for including reference to the interconnect thickness as in claim 13.

To expedite the successful close of this prosecution, claims 2 and 7 are here canceled so that claims 1, 3, 5, 6, and 13, 14, 15 and 17 are now pending for reconsideration.

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Respectfully submitted,

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